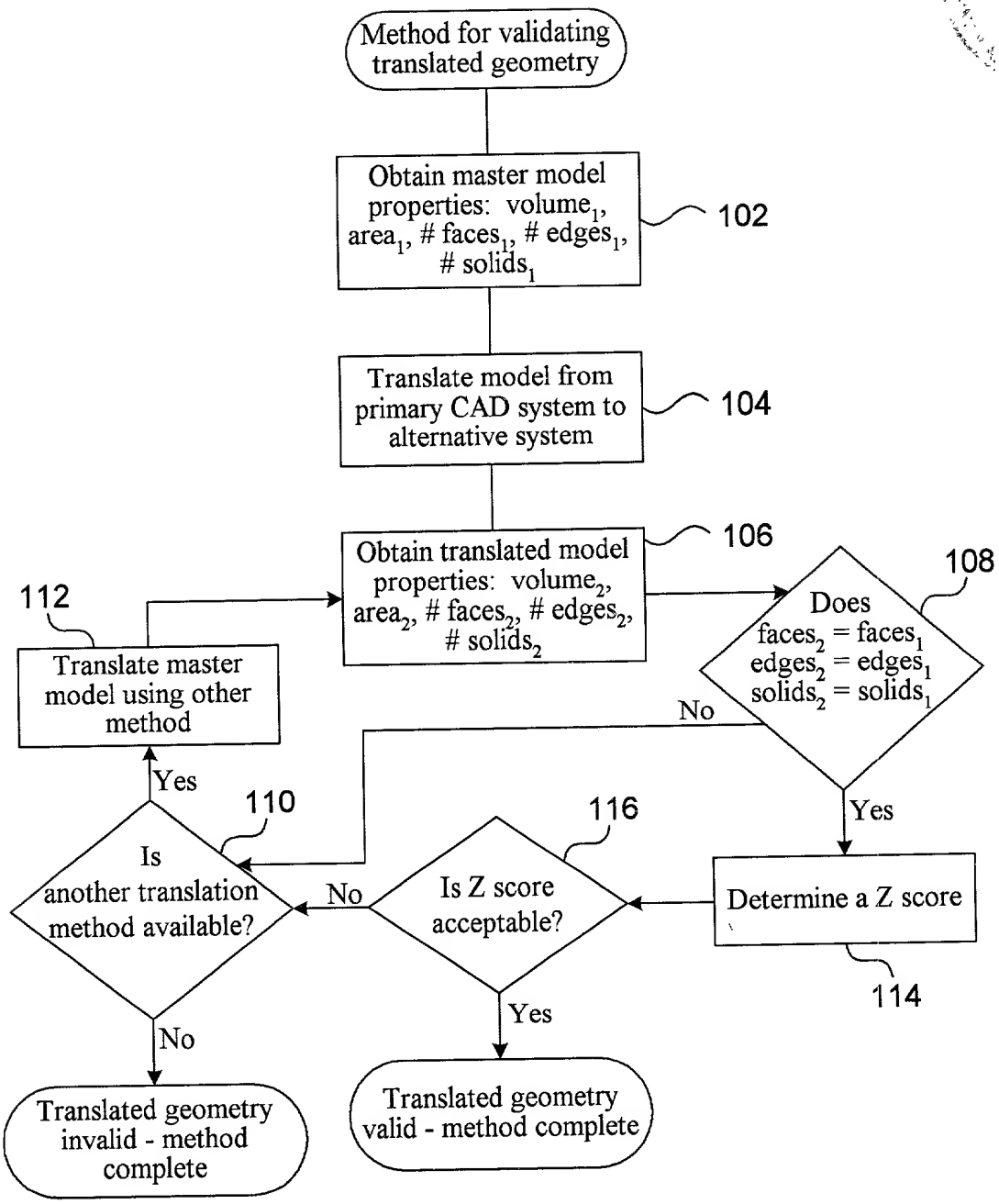
Method for validating translated geometry
Obtain master model properties: volume1, area1, # faces1, # edges1, # solids1
102
Translate model from primary CAD system to alternative system
104
Obtain translated model properties: volume2, area2, # faces2, # edges2, # solids2
106
Does faces2 = faces1 edges2 = edges1 solids2 = solids1
108
No
Yes
Determine a Z score
114
Is Z score acceptable?
116
No
Yes
Is another translation method available?
110
Yes
No
Translate master model using other method
112
Translated geometry valid - method complete
Translated geometry invalid - method complete

Fig. 1

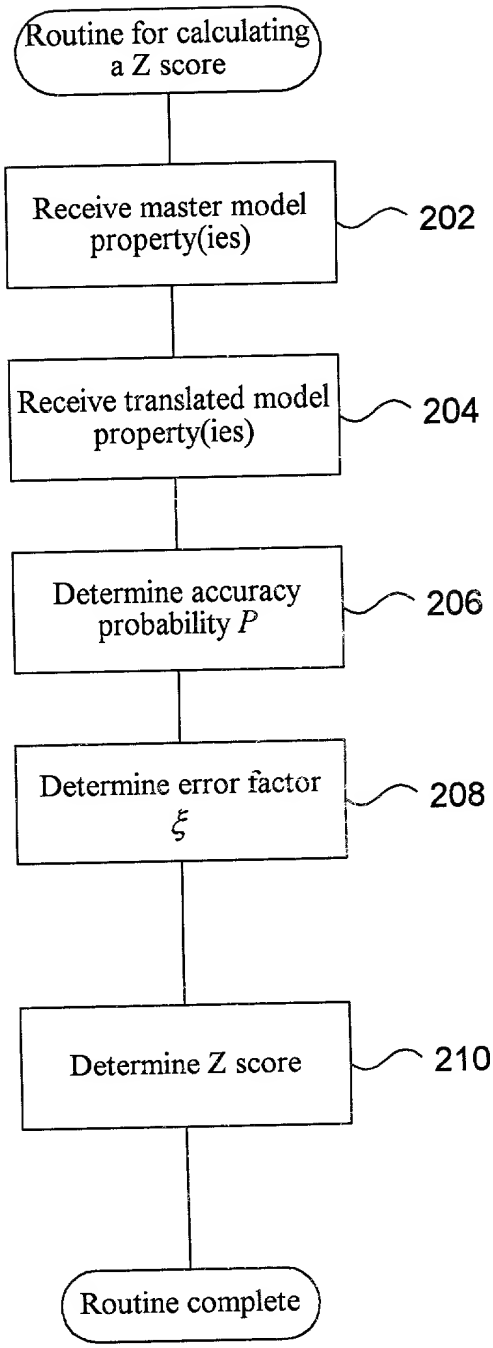
Routine for calculating a Z score
Receive master model property(ies)
202
Receive translated model property(ies)
204
Determine accuracy probability P
206
Determine error factor ξ
208
Determine Z score
210
Routine complete

Fig. 2

model name	Prop.	% deviation units	error factor ξ	Accuracy Probability P	Z SCORE
SHAFT, STUB FWD - CPRSR	34979.2134				
	34978.9000	8.9596E-04 in	8.959607E-06	99.9991040383	4.29
	34979.0367	5.0516E-04	5.051517E-06	99.9994948428	4.41
	34979.0000	6.1008E-04 in	6.100766E-06	99.9993899234	4.37
	34979.5524	9.6915E-04	9.691470E-06	99.9990308530	4.27
WHEEL, COMPRESSOR STG-1	10754.9440				
	10755.0000	5.2069E-04 in	5.206908E-06	99.9984783092	4.41
	10754.9830	1.7666E-04	1.766629E-06	99.9998233371	4.64
	10755.0000	5.2069E-04 in	5.206908E-06	99.9994793092	4.41
	10754.9445	4.6490E-06	4.649025E-08	99.9999953510	5.34

302 305 304 309 308 310 312 306 307 300

Fig. 3

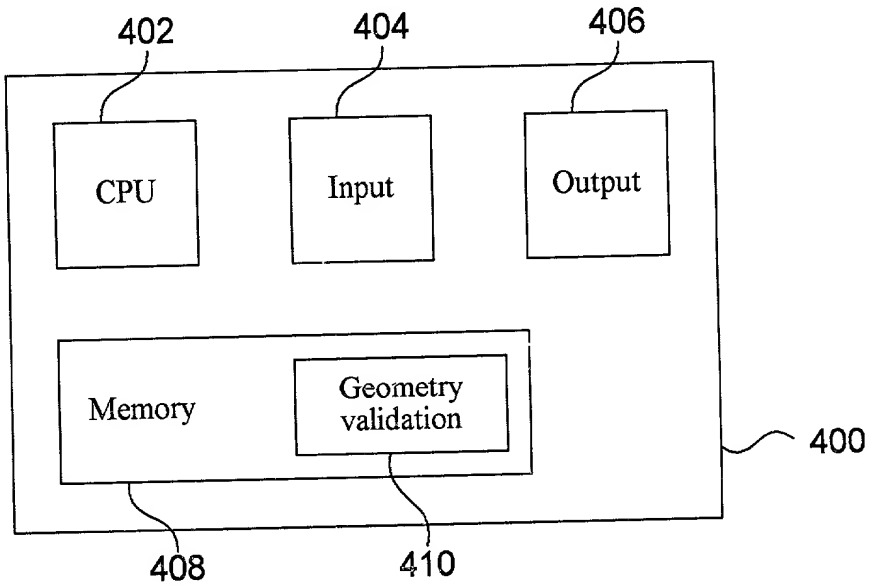
402
404
406
CPU
Input
Output
Memory
Geometry validation
400
408
410

Fig. 4